

NOTES FROM THE BOTANIC GARDENS, SYDNEY.

No. 11.

By J. H. MAIDEN AND E. BETCHE.

CRUCIFERÆ.

LEPIDIUM ROTUNDUM DC., var. PHLEBOPETALUM, var. nov.

(Syn. *Lepidium phlebopetalum* F.v.M.).

The West Australian *Lepidium rotundum* was added to the flora of New South Wales, in 1893, in Moore and Betché's Handbook of the Flora of New South Wales, from specimens from Byrock with such broad pod-wings that they could not well be included in *L. phlebopetalum*. Since then, more East as well as West Australian material has passed through our hands, and has convinced us that *L. phlebopetalum* cannot be upheld as a species. Bentham remarked as early as 1863 (B.Fl. i. p.85):—" *L. phlebopetalum* is very closely allied to *L. rotundum*, and perhaps a variety only, scarcely differing from it except in the pod." We now propose to reduce it to a variety of *L. rotundum*.

CAPPARIDÆ.

CAPPARIS SARMENTOSA A. Cunn.—New for New South Wales.

Acacia Creek, Macpherson Range, near the Queensland border (J. L. Boorman; Feb. '05).

Previously recorded only from Southern Queensland. According to the collector it is fairly common in the Acacia Creek district, on the edges of scrubs.

CAPPARIS NOBILIS F.v.M., var. PUBESCENS, Benth.

Acacia Creek (J. L. Boorman; Feb. '05).

Though we refer this plant to Bentham's var. *pubescens*, it differs from it in the climbing habit. According to the collector's notes it perfectly assumes the habit of a climber;

the stem, covered with short conical prickles, overruns tall forest trees, attaining a length of over 120 feet and 4 inches in diameter. The flowers are smaller than in the arborescent and shrubby forms, and white with pale blue stamens. The young branches and underside of the leaves are densely covered with short soft hairs. The Acacia Creek form of *C. nobilis* has the climbing habit in common with the Norfolk Island form, the type on which the species was founded (as *Busbeckia*), but only the habit; the shape of the leaves, the inflorescence, bud, and colour of flowers are those of the continental form; the fruits we have not seen. It differs further from the Norfolk Island form in the stem, which is smooth in the Norfolk Island plant and prickly in that from Acacia Creek. *Capparis nobilis* is truly a polymorphous plant. We have leaf-specimens of a fair-sized seedling plant from Ash Island, in the Hunter River, collected by one of us in October, 1903, of totally different appearance. The leaves are ovate, acuminate, $\frac{3}{4}$ to 1 inch long, distichous, shortly petiolate, and with stipular spines 4 to 6 lines long.

SAMYDACEÆ.

CASEARIA ESCULENTA Roxb.—New for New South Wales.

Sandiland Ranges (J. L. Boorman; Nov. '04, in flower).
Acacia Creek, Macpherson Range (J. L. Boorman; Feb. '05, in fruit).

A shrub or small tree attaining 20 to 30 feet in height, with a stem not exceeding 6 inches in diameter, as far as seen.

The species is widely spread over the East Indies, where the leaves are used by the natives as a spice in stews, hence the specific name; we have no evidence that the Australian aborigines made use of the plant in any way.

This record adds a new Natural Order to the flora of the State.

STERCULIACEÆ.

LASIOPETALUM LONGISTAMINEUM, sp.nov.

Mt. Dangar, Gungah; in moist warm places in rich alluvial deposits (J. L. Boorman; Sept. '04, in bud; and Dec. '04, in flower and fruit).

A spreading, somewhat pendulous shrub, about 3 to 4 feet high, the young branches somewhat flattened and densely rust-coloured tomentose. Leaves narrow-lanceolate, mostly 3 to 5 inches long and $\frac{3}{4}$ to above 1 inch broad, rounded and often slightly cordate at the base, tapering towards the apex; green and glabrous above when full-grown, densely white-tomentose underneath, the mid-vein more or less rust-coloured. Flowers sessile and crowded in two one-sided rows on the spike-like branches of the pedunculate leaf-opposed cymes, the whole inflorescence densely rust-coloured tomentose. Bracteoles oblong, densely tomentose on both sides, slightly longer than the calyx, and appressed to it. Calyx-segments almost free (approaching the genus *Lysiosepalum*), linear-lanceolate, tomentose outside, glabrous inside except on the edges, about 3 to 4 lines long. Petals scale-like, very small. Stamens about as long as the calyx, the filaments fully four times as long as the anthers; anthers exerted, opening in terminal pores. Ovarium tomentose, 3-celled, the style loosely covered with stellate hairs from the base to near the summit. Seeds strophiolate, slightly downy.

Our new species is most nearly allied to *L. macrophyllum* Grah., and may perhaps be regarded as a form of it, but peculiar circumstances render identification with the type a matter of exceptional difficulty. *L. macrophyllum* was described and figured by Graham from plants grown at Kew from seeds transmitted from New South Wales by Richard Cunningham in July, 1835, and no wild specimens exactly identical have ever been collected. R. Brown's specimens from "Paramatta and Sydney," and Allan Cunningham's specimens from "Southward of the Colony," which Bentham united in the *Flora Australiensis* with *L. macrophyllum*, have smaller flowers and narrower bracteoles. In habit and foliage the specimens from Mt. Dangar hardly differ from *L. macrophyllum*, except in the rather narrower leaves; the inflorescence is exactly as described in Graham's cultivated plant, but the flowers differ in such essential points that we do not feel justified in identifying our specimens with *L. macrophyllum*.

The genus *Lasiopetalum* is generally characterized by very short filaments; therefore the long filaments of *L. longistamineum* are a very striking character. Bentham describes the filaments of R. Brown's and A. Cunningham's specimens of *L. macrophyllum* as "rather long," an expression quite unsuitable to the remarkably long filaments of our new species; and Graham describes the filaments of the type as "twice as long as the anthers," while they are in our specimens fully four times as long. Another essential difference is in the style. The style is glabrous in all New South Wales species previously known, but stellate-hairy in *L. longistamineum*; and Graham specially emphasises the glabrous style in *L. macrophyllum* by writing "the style and the inside of the calyx are the only parts attached to corymb which are glabrous." Other distinctions of the two species are: in *L. macrophyllum* the segments of the calyx are ovate, and the ovarium is 4- or 5-celled; in *L. longistamineum* the calyx-segments are narrower and the ovarium is normally 3-celled.

LINEÆ.

ERYTHROXYLON AUSTRALE F.v.M.—New for N. S. Wales.

Acacia Creek (J. L. Boorman; Feb. '05).

Previously recorded from Queensland only. The collector writes—"It is a shrub about 4 to 6 feet high, with weak rather pendulous branches, not common in the district, on the sides of one particular dry hill near the Queensland border." The fruits are red when ripe, and in shape almost exactly like the illustration of the fruit of *E. Coca* Lam., in Engler's 'Natürliche Pflanzenfamilien.'

RUTACEÆ.

BORONIA GRANITICA, sp.nov.

Howell, N.S.W. (J. H. Maiden and J. L. Boorman; Aug. '05).

A compact erect shrub from 3 to 6 feet high, with a stem over 1 inch thick near the ground; and with densely stellate-hairy young branches. Leaves pinnate, generally with 11 to 17 leaflets; the leaflets linear-lanceolate with much recurved margins, about 2 to 4 lines long, the terminal odd one the shortest; rachis

winged, with recurved margins, so that the segments of the rachis between the pairs of leaflets resemble the leaflets in size and shape, the whole leaf rarely above 1 inch long, slightly stellate-hairy. Peduncles axillary, much shorter than the leaves, densely stellate-hairy, 1- or 3-flowered. Sepals lanceolate, rather acute, densely tomentose outside and inside, about 2 lines long. Petals valvate in bud, lanceolate, about or above twice as long as the sepals, somewhat tomentose outside and with a prominent midrib, very slightly hairy inside, vieux rose in colour, the fully expanded flower 1 inch in diameter. Stamens unequal in length, the sepaline ones twice as long as the petaline ones; filaments ciliate in the lower half, rough with short asperities in the upper part; anthers all prominently apiculate. Ovarium glabrous, with a short glabrous style slightly thickened at the stigmatic end.

The affinity of *B. granitica* is undoubtedly closest to *B. ledifolia* J. Gay; in fact the flower in all its parts is quite identical with that species, but the foliage and habit are so strikingly different that we cannot include it in its varieties without being logically compelled to unite the whole group of allied *Boronias*, from *B. ledifolia* to *B. mollis* and *B. Fraseri*. The pinnate-leaved forms of *B. ledifolia* are always variable, the 3-foliolate form of leaves merging into the pinnate form. But our new species is as constant as *B. pinnata* itself.

It grows in the fissures of granite rocks at one of the highest elevations in the vicinity of Howell township, 19 miles south-east of Inverell.

Since the above description was prepared it has been received (through Mr. R. H. Cambage) from Mr. E. C. Andrews, who obtained it at The Gulf, Emmaville, July, '05.

XANTHOXYLUM BRACHYACANTHUM F.v.M.

Sandiland Ranges (J. L. Boorman; Nov. '04), Acacia Creek (W. Dunn; Jan. '05).

This is not a rare plant in the Northern brush-forests, but we mention it here to correct an error in Bentham's description. Bentham describes the inflorescence as axillary; the inflorescence

is terminal in all our specimens, and we have nine specimens from different localities of New South Wales and Queensland. According to the notes of the collectors, it is in its youthful state almost a climber, at least a scrambler, throwing up shoots of almost even thickness attaining 20 feet in length, and supporting itself by means of its hooked prickles. Later in life it drops most of its spines and becomes a tall slender tree, attaining perhaps 50 feet in height by 6 inches stem-diameter. The leaves are slightly crenate and have large, very conspicuous oilglands in the sinuses of the crenatures, a striking character by which the species can be readily recognised from leaves alone, at least in this State, where it is the only representative of the genus.

LEGUMINOSÆ.

OXYLOBIUM PULTENÆA DC.

(Syn. *O. hamulosum* Benth., Bot. Amer. Expl. Exped. i. 379).

Branxton, Hunter River (Mrs. J. Lynch; Sept. '04, and J. L. Boorman, Nov. '04): Greta, Hunter River (J. L. Boorman; Nov. '04): Gungah, Upper Hunter River (J. L. Boorman; Dec. '04).

Bentham described *O. hamulosum* from fruiting-specimens collected on the Hunter River about 1840, but in the *Flora Australiensis* (Vol. ii. p.20) he expresses doubt about the species, and writes—"This will probably prove to be a variety of *O. Pultenæa*, but the leaves are too distinct to unite it without having seen the flowers." From the abundant material of both flowering and fruiting specimens obtained from the Hunter River we find Bentham's doubt fully justified. *O. hamulosum* cannot be maintained as a species; the narrow- and broad-leaved forms run so gradually into each other and are entirely unaccompanied by corresponding differences in flower or fruit that we cannot even separate it as a good variety.

We propose to abandon the name *O. hamulosum* and to amend the description of the leaves of *O. Pultenæa* to—Leaves from ovate-lanceolate to narrow-linear, with much revolute margins, more or less pointed and hooked at the end, from 3 to above 6 lines long.

MIRBELIA AOTOIDES F.v.M.

Boonoo Boonoo (J. L. Boorman, Nov. '04).

A rather rare and imperfectly described plant. According to the collector's notes it is a bushy rigid shrub, 4 to 7 feet high and about 7 or 8 inches in diameter, growing by the side of running water in sandstone formation. The leaves in our specimens are not "almost pungent," as described by Bentham, but decidedly pungent, and attain fully 1 inch in length. The flowers are orange-coloured, in short racemes, terminal or in the upper axils, often reduced to almost sessile clusters. In bud the racemes are almost spike-like, with a dense tomentum on the rhachis, bracts, pedicels and the calyces, the pedicels lengthening out in flower and fruit.

The specimens from Boonoo Boonoo are identical with Dr. Beckler's type-specimen from Mt. Mitchell, except that the inflorescence is much reduced in the latter specimen.

DAVIESIA RECURVATA Maiden & R. T. Baker.

Warialda (J. L. Boorman; July, '05; the most northerly locality recorded) : Howell, near Inverell (on granite; J. H. Maiden and J. L. Boorman; Aug. '05),

The range of the species is now from the Rylstone to the Warialda and Inverell districts. At Warialda it is fairly common throughout the district in sandy soil, from the flats to the tops of the hills, and attains a height up to 6 feet. At Howell it seems less diffused and less robust.

PULTENÆA MOLLIS Lindl.

Bidden Road, 7 miles from Gilgandra, Castlereagh River, north of Dubbo (R. H. Cambage; Nov. '04).

New for New South Wales; previously recorded for Victoria and South Australia. Our specimens differ from the type in the calyx, which has acuminate lobes much longer than the tube, and smaller and narrower bracteoles attached higher up; but as this is the only essential difference it seems not advisable to separate

it from *P. mollis*. Bentham describes the flowers as "in dense terminal heads." This is a rather misleading statement; in our Victorian specimens the flowers are not always strictly capitate, and in the *Gilgandra* specimens they may be described as "crowded in the axils of the upper leaves or forming few-flowered terminal heads."

PULTENÆA CINERASCENS, sp. nov.

Warialda (J. L. Boorman; July, '05).

An erect dense-growing shrub, 1 to 2 feet* high, with white-tomentose young branches becoming glabrous with age. Leaves alternate, crowded and clustered from the shortness of the lateral branchlets, shortly petiolate, linear with revolute margins, leaving only the midrib visible underneath, generally 4 lines long, rather acute, with a short often recurved point, but not pungent; stipules lanceolate, acuminate, brown and conspicuous on the white young shoots but deciduous and soon disappearing. Flowers solitary, nearly sessile in the axils of the upper leaves or apparently terminal and a few together on the short lateral branchlets, but without persistent bracts, and never forming heads. Calyx sparingly hairy, with acuminate lobes rather shorter than the tube, the upper ones united higher up; bracteoles small, linear-subulate, hairy like the calyx, attached high up on the calyx-tube. Ovarium sessile, densely pubescent with appressed hairs; style slender, hairy in the lower part. Standard broader than long, orange-coloured, marked with reddish-brown; keel dark brown, rather shorter than the standard, the wings orange, about as long as the keel. Fruits and seeds not seen.

In systematic position it should be placed near *P. Hartmanni* F.v.M., a species with which it has most essential characters in common, and from which it is yet widely different in appearance. The mode of growth is the same in both plants, but *P. Hartmanni*

* Since the above was written we have received it from the Rev. H. M. R. Rupp, who collected it at Coolatai, 25 miles north of Warialda, where it attains a height of 5 feet, and with leaves rather longer than the type.



is taller, hirsute with grey hairs, and has broad leaves, while our new species has narrow clustered leaves and silvery-white young branches, very attractive in the new growth. The clustered appearance of the leaves is caused by the short lateral branchlets being often reduced to a mere cluster of leaves, very much as in *Hibbertia fasciculata* R.Br., a peculiarity not shared by *P. Hartmanni*, whose lateral branchlets are often very short, but not reduced to such an extent.

The habitat of our new species is also very similar to *P. Hartmanni*, and suggests that it may be the southern form of that species. *P. cinerascens* is fairly common on the tops of hills near Warialda; while *P. Hartmanni* has been collected by Mr. Boorman on the tops of granite hills between boulders of rocks near Stanthorpe in Southern Queensland, and traced from there to Wallangarra in Northern New South Wales. When the mountainous country intervening between Wallangarra and Warialda is thoroughly botanically explored, a connecting link between the two species may yet be found, unless it has died out.

ACACIA DORATOXYLON A. Cunn. var. OVATA, var.nov.

Stanthorpe, Southern Queensland (J. L. Boorman; July, '04): Howell, N.S.W. (J. H. Maiden and J. L. Boorman; Aug. '05).

A low spreading shrub not exceeding 2 feet in height, with densely intricate branches. Flowers in short ovate heads, often almost globular, rarely in short but distinctly cylindrical spikes. Seeds shorter than in the typical *A. doratoxylon*, and with a more compact arillus. All other characters are those of the type.

This well-marked variety seems to be confined to the granite rocks capping the tops of many hills in the northern New England district. It grows in dense masses along the fissures of the rocks, forming in many places almost the only vegetation of the bare rocks.

ACACIA GNIDIUM Benth. var. LATIFOLIA, var.nov.

Gilgandra (No. 1132; R. H. Cambage; Oct. '04).

A viscid shrub locally known as "Motherumbung,"* distinguished from the type only in the broader phyllodia. Leaves

narrow-lanceolate, from under 1 to 2 inches long, and 2 lines broad in the broadest part. *A. Gnidium* is an imperfectly known plant, only known from Mitchell's specimens from Mt. Pluto in Queensland, and also Bidwill's No. 19 in the Hookerian Herbarium, Kew. It is, perhaps, hardly a good species, unless the unknown fruits supply a better distinctive character. Bentham writes in the *Flora Australiensis* in a footnote to his description of *A. Gnidium*—"The nearest affinity appears to be *A. dodonæifolia*, from which our specimens chiefly differ in the very narrow phyllodia." Mr. Cambage's Gilgandra specimens tend to bring out this affinity still closer, so that we were in some doubt whether to regard it as a small and narrow-leaved form of *A. dodonæifolia* or as a broad-leaved form of *A. Gnidium*, but it has the slender habit and small flowers of the latter. The fruits are still unknown.

We have to thank the Director of Kew for a small specimen of Mitchell's type of *A. Gnidium*, a rare plant not previously represented in any Australian herbarium.

MYRTACEÆ.

KUNZEA BRACTEOLATA, sp. nov.

Wallangarra (J. L. Boorman; Nov. '04).

An erect, rather stiff shrub about 3 to 4 feet high, glabrous in all its parts except a slight pubescence on the young branches. Leaves alternate, very shortly petiolate, linear-lanceolate, 4 to 5 lines long, acute, flat but somewhat concave, erect and almost imbricately crowded on the smaller branchlets. Flowers glabrous, about 10 or less, sessile in a small terminal head, often becoming lateral by the development of the axis, with hardly any floral leaves in the heads. Bracts and bracteoles broadly ovate, boat-shaped, acuminate, almost as large as the calyx-tube and enclosing it, nearly of equal size but the bract rather larger, with a longer point and often minutely ciliate. Calyx-tube ovoid, quite glabrous, the lobes lanceolate, acute, about $\frac{3}{4}$ the size of the tube.

* See R. H. Cambage, this Vol. p. 215. Plate ii. is a photo showing the habit of this tree.

Petals white, scarcely exceeding the sepals. Stamens not numerous, the filaments hardly twice as long as the petals. Ovary 3- or rarely 4-celled, with numerous ovules in each cell on a peltate placenta. Fruits not seen.

This new *Kunzea* occurs in a dry watercourse in the mountainous country about Wallangarra, near the Queensland border, in company with *K. corifolia*. Its most distinctive character is the remarkably large bracts and bracteoles in which the single flowers are wrapped up; in this respect it comes near some West Australian species of Section *Eukunzea*, but the characters of the ovary are those of Section *Salisia*, and its nearest affinity is *K. capitata*. In general appearance it is somewhat like a glabrous form of *K. capitata*, with white flowers and narrower leaves, but the large bracteoles well distinguish it from any described species.

KUNZEA OPPOSITA F.v.M.

Howell (J. H. Maiden and J. L. Boorman; Aug. '05).

A new locality for a rare plant, described by Mueller from specimens collected at Timbarra, New England, in granite fissures. The new locality is some 100 miles south-west of the original habitat, but still in granite country. It is a compact shrub about 1 to 2 feet high, growing at Howell on moist flats with a rocky foundation, in company with *K. capitata* Reichb.

EUGENIA CYANOCARPA F.v.M.

Under Barrenjoey Lighthouse, at the 100 feet level; also $1\frac{1}{2}$ -2 miles south of Barrenjoey, at edge of Pittwater (J. H. Maiden and R. H. Cambage, July, '05).

UMBELLIFERÆ.

ACTINOTUS GIBBONSII F.v.M., var. BÄUERLENI, var. nov.

Shuttleton, near Nymagee, on stony hills (W. Bäuerlen, Nov. '03).

Mr. Bäuerlen writes in his notes:—"This differs from *A. Gibbonsii* in the following characters—Always quite prostrate, more weak and flaccid, and the leaves always of a darker colour,

radiating with shoots sometimes up to 18 inches in length. Flowers considerably smaller; sepals smaller; of a different shape, deltoid. Anthers apparently larger; filaments shorter. Hairs on the fruit with a large gland on the apex. Hairs on the sepals quite different, cellular; with whorled branches, sometimes like the antlers of a horn of a stag. Pedicels longer and terete, not flat and broader at the base as in *A. Gibbonsii*."

As far as the habit goes there is no difference between this form and the type. The type is variable in habit; we have seen it quite prostrate, forming patches 4 to 5 feet in diameter, and in other localities again almost erect. With regard to the details of the flowers, Mr. Bäuerlen's observations are quite correct in the main. The chief and only essential difference is in the fruit and the persistent calyx-lobes. The shape of the fruit is about the same, but in the type the edges are densely ciliate with long white simple hairs, and the calyx is at least half as long as the fruit, and in the variety the hairs on the edge are shorter and tipped with a gland, and the calyx is much shorter, the lobes broader and the hairs are branched.

These characters seem to be constant, but the general appearance, habit, leaves and inflorescence of the specimens are so much like the typical *A. Gibbonsii*, that we do not share Mr. Bäuerlen's view, who regards it as a new species.

We have to thank Mr. R. T. Baker for the communication of the specimens.

COMPOSITÆ.

HELICHRYSUM DIOSMIFOLIUM Less.

Wallangarra (J. L. Boorman; Nov. '04).

A tall shrub attaining about 5 feet in height, with lanceolate leaves, generally rather above $\frac{1}{2}$ inch long, yellowish underneath and slightly woolly, apiculate, the margins slightly recurved. Involucral bracts pale yellowish. Flowers about 10 in the head.

The common *H. diosmifolium* is a very variable plant, but the forms pass so gradually into each other that we cannot divide them into named varieties. The Wallangarra specimen described above is the most broad-leaved form we have met with. Bentham

describes the leaves as "narrow-linear with revolute margins," and so they are in all the southern specimens; but in the northern localities the leaves have a tendency to flatten out, though both narrow- and broad-leaved forms may occur together. The flower-heads also vary much in size, colour and number of flowers. White is the predominant colour; the not uncommon pinkish tint is already mentioned by Bentham, but the pale yellowish tint seems to be rare. Small white sterile heads, either empty or with a very few flowers, are of common occurrence in this species.

HELICHRYSUM BOORMANII, sp.nov.

Atherton, N. Queensland (E. Betche; Aug. '01); Boonoo Boonoo, N.S.W. (J. L. Boorman, Nov. '04).

The Queensland specimens are upright shrubs 3 to 4 feet high, without any trace of woolly hairs. Stems and leaves glutinous with short glandular hairs, especially dense on the branches. Leaves lanceolate, acuminate, sessile, 2 to 3 inches long, the upper leaves reduced, but the stems generally leafy to near the large solitary flower-head. Involucral bracts all clawed; pure white, narrow and acuminate; the outermost ones short and shortly clawed; the intermediate ones nearly an inch long, with a narrow claw 2-3 lines long; the innermost ones reduced to the long claw, with a lamina hardly 1 line long.

The New South Wales specimens differ only slightly from the Queensland ones. The claws of the outer involucral bracts are woolly-hairy and broader and less sharply distinguished from the lamina, and the stalk under the flower-heads is woolly-hairy as well as the floral-leaves, thus approaching closer to *H. elatum* of the Section *Xerochlæna*.

We were first inclined to regard the Queensland specimens as a form of *H. elatum* A. Cunn. (in F. v. Mueller's wider sense of this species, including *H. glutinosum* Hook.), but Mr. Boorman's discovery of the same plant, almost unchanged, though found about 12 degrees of latitude further south, induced us to describe it as a new species.

In systematic sequence it should be placed near to *H. collinum* DC.

SENECIO LAUTUS Forst.

(Syn. *S. capillifolius* Hook. f.)

J. D. Hooker established his *S. capillifolius* on a single Tasmanian specimen in 1847. Mueller continued to keep it as a distinct species in his 'Second Census of Australian Plants' in 1889; but L. Rodway unites it with *S. lautus* in his 'Tasmanian Flora' (1903). We fully agree with Mr. Rodway that it is merely a form of the variable *S. lautus*; in fact it passes so gradually into the pinnate-leaved forms of that species that we cannot draw a line between them, and cannot even separate it as a well-marked variety.

The following are New South Wales localities of the true *S. capillifolius* Hook. f., as figured in Hook., Fl. Tasm. t.66:—Howell (J. H. Maiden and J. L. Boorman; Aug. '05); Warialda (J. L. Boorman; July, '05); Nundle (J. L. Boorman; June, '04); Warrumbungle Ranges (W. Forsyth; Oct. '01); Weddin (J. H. Maiden; Dec. '99).

It extends into Southern Queensland, e.g., Stanthorpe (J. L. Boorman; July, '04); Head of the Gwydir River (Dr. Leichhardt; April, 1843). We have no Victorian specimens in the Herbarium, and it is evidently a rare plant in Tasmania.

STYLIDIEÆ.

STYLIDIUM DEBILE F.v.M. var. PANICULATUM, var.nov.

Boonoo Boonoo, near Tenterfield (J. L. Boorman; Feb. '05).

A very weak slender plant sometimes nearly 1 foot high, with a paniculate inflorescence, the lower panicle-branches often above 1 inch long. Leaves and flowers like the type, but the calyx-lobes longer and narrower, and the capsules shorter and broader. Specimens collected at Wardell, Richmond River (E. Betché; Aug. '84), and Wallangarra (J. L. Boorman; Nov. '04) are intermediate forms between the typical *S. debile* and this variety.

EPACRIDEÆ.

STYPHELIA TRIFLORA Sm.

Blackheath, on the Blue Mountains (W. Forsyth; April, '05; a coast plant previously not recorded from the Blue Mountains).

A form with greenish-yellow flowers; Galston, near Sydney (J. H. Maiden; June, '05).

LOGANIACEÆ.

STRYCHNOS PSILOSPERMA F.v.M.—New for N. S. Wales.

Acacia Creek, near the Queensland border (J. L. Boorman; Feb. '05).

Previously recorded from Queensland only. Bentham describes it as a shrub with weak branches. Bailey writes in his 'Queensland Flora'—"In the Brisbane district an erect tree 60 or more feet high, armed with slender spines 1 inch long." Mr. Boorman describes it in his field-notes as a "handsome compact tree 40-50 ft. high, very suitable as an ornamental shade tree," but there are no spines on his specimens, and he is positive that all the trees he has seen are without spines. Possibly this is one of the trees which are armed with spines in the juvenile state, and become spineless when they are grown up and have raised their foliage above the reach of browsing animals.

The structure of the timber appears to be unique amongst New South Wales timbers.

SOLANACEÆ.

ANTHOCERCIS ALBICANS A. Cunn.

Boonoo Boonoo, near Tenterfield (J. L. Boorman; Nov. '04).

An erect much-branched shrub 2 to 3 feet high, with long drooping branches, covered all over with branched hairs, densely so on the under side of the leaves, more sparingly on the branches and upper side of the leaves. Leaves from broad- to narrow-ovate, and from $\frac{1}{2}$ to less than $\frac{1}{4}$ inch long, with recurved margins, nearly sessile and much spreading or even refracted. Flowers pale yellow, solitary on slender pedicels about $\frac{1}{4}$ inch long. Calyx about 1 line long, the lobes about as long as the tube. Corolla-tube longer than the calyx, the lobes obtuse and about as long as the tube.

From the above description it will be seen that the Boonoo Boonoo specimens differ essentially from Bentham's description in the 'Flora Australiensis.' According to Bentham, the flowers

are shortly petiolate, usually 2 or 3 together, white, with acute lobes longer than the tube. These are very essential differences, but for all that we cannot separate our plant specifically from *A. albicans*. The comparative length of the corolla-lobes is variable in the genus and apparently very variable in the species. A. Cunningham describes the flower of his type in the following words—"corollæ laciniis tubo æqualibus," but figures the plant in the same work (Barron Field's 'New South Wales,' p.335, t.2) with corolla-lobes acute, and decidedly longer than the tube. In the Herbarium specimens we find the length of the corolla-lobes very variable. In specimens from the Warrumbungle Ranges (W. Forsyth) the lobes are long and acute, as figured in Sweet's 'Flora Australasica' (t.16); in Berrima specimens (J. H. Maiden and J. L. Boorman) the lobes are shorter and rather obtuse, but both have the characteristic white tomentum of branched hairs. The same difference is in the length of the pedicels and in the denseness of the indumentum, but we cannot draw a line between the forms.

With these modifications in the description of *A. albicans* it seems rather difficult to distinguish between this species and *A. scabrella* Benth., in sharp characters; but as far as our Herbarium material goes, *A. scabrella* is a much more slender plant with filiform pedicels and often almost filiform branches and more distant leaves, always easily separated from all forms of *A. albicans*.

LABIATÆ.

PROSTANTHERA GRANITICA, sp.nov.

Howell (Bora Creek: J. H. Maiden and J. L. Boorman; Aug. '05).

A compact, bushy shrub, about 3 feet high, somewhat of the habit of *Westringia rosmarinifolia*, covered all over with white hairs, long and dense on the young shoots, on the calyces and on the under side of the leaves, short and scanty on the upper side of the leaves and on the old branches. Leaves very shortly petiolate or almost sessile, ovate-lanceolate, with occasionally a slightly cordate base, 3 to 5 lines long, the margins recurved or

revolute, leaving frequently the under side exposed only on the broad base, the upper side almost glabrous on some of the old stem-leaves. Flowers almost sessile in the axils of the upper leaves, forming interrupted leafy spike-like racemes, generally with a tuft of empty leaves at the top. Calyx about 2 lines long, the lips nearly equal in length and breadth and nearly equally pubescent, with a pair of pubescent linear bracts close at the base. Corolla lavender-coloured, hardly twice as long as the calyx, the only glabrous part of the plant. Anthers with hardly a conspicuous free appendage. Fruits not seen.

In affinity it comes nearest *P. rhombea* R.Br., but is markedly distinguished from it in foliage and indumentum. The typical *P. rhombea* is a rather sparse-leaved plant with glabrous rhomboid leaves on which the resinous glands can be distinctly seen as little brown sparkling dots, while in our new species no glands are visible on any part of the plant, and the shape and consistence of the leaves and calyces are very different.

It seems to be a very local plant; as far as is known at present, it is confined to the fissures of rocks on the top of a granite ridge overlooking the township of Howell, 19 miles south of Inverell.

EUPHORBIACEÆ.

GLOCHIDION UMBRATILE, sp.nov.

Atherton, North Queensland (E. Betche; Aug. '01).

An erect, glabrous, almost herbaceous shrub, about 4 to 6 feet high, with a slender straight stem, and almost horizontally spreading, slender, straight, green, slightly flattened branches. Leaves shortly petiolate, alternate, distichously arranged, ovate-lanceolate, generally 3 to 4 inches long and $1\frac{1}{2}$ to nearly 2 inches broad in the broadest part near the base, dark green and shining above, rather paler underneath. Stipules persistent, above $1\frac{1}{2}$ lines long, tapering from a broad base to a point, with scarious edges. Flowers in axillary clusters, generally 2 to 5 together, the males minute and on pedicels not exceeding 2 or 3 lines, the females much larger and on stouter pedicels lengthening out to $1\frac{1}{2}$ inches in fruit, both sexes usually in the same cluster. Calyx-

segments 6, broad and obtuse, minute in the males, much larger in the females. Anthers apparently 3, sessile or nearly so on a short central column. Ovarium glabrous; styles short and flat, with two broad flat spirally recurved stigmatic branches. Fruit bright red, somewhat succulent, about $\frac{1}{2}$ inch in diameter, scarcely depressed in the centre, with 6 large triangular seeds.

A strikingly handsome plant, on account of the contrast between the bright red fruits and the dark glossy green foliage; confined to the dense shade of the tall forests of Atherton, as far as known to the collector.

We place this plant with *Glochidion*, or Bentham's section *Glochidion* of *Phyllanthus*, in spite of the succulent fruit, which is quite unique in the genus, if our proposed name is adopted. Perhaps it might be placed under *Breynia*, but also in that genus its position would be abnormal on account of the calyx, which is that of *Glochidion*, and very different from *Breynia*. Unfortunately we had very scanty material to work upon, so that we could not satisfy ourselves that our description of the male flowers is correct in detail.

MONOTAXIS MACROPHYLLA Benth.

Howell (J. H. Maiden and J. L. Boorman, Aug. '05). A new locality for a very rare plant. Found in one place growing in a little sediment near the summit of a granite hill.

An erect, rather succulent plant, with yellow flowers.

CASUARINACEÆ.

CASUARINA DISTYLA Vent., var. PROSTRATA, var. nov.

Near the ocean cliffs north of entrance to Narrabeen Lagoon, on Narrabeen Shale formation (R. H. Cambage; Feb. '00); Newport to Barrenjoey (R. H. Cambage and J. H. Maiden; July, '05).

A low decumbent shrub forming dense patches several feet in diameter and 2 to 4 feet high. Branches nearly as stout as the common erect Port Jackson form of the species, but always curved, often almost curled, and conspicuously hirsute with hairs arranged in rows along the ridges of the branches; teeth of the whorls 8 in all specimens seen, long-pointed. Cones sessile or

rarely on short stalks, smaller than in the erect Port Jackson form and nearly always truncate, the fine points of the bracteoles often persistent on the mature cones. Male flowers not seen.

This variety is very distinct from the coast-form of *C. distyla*, so common on the Hawkesbury Sandstone formation, but, on analysing the characters, we cannot point out a single character not included in Bentham's description of *C. distyla* Vent. (which includes *C. paludosa* Sieb.) in his 'Flora Australiensis.' The spreading habit and curved branches occur also in some Victorian and West Australian forms; hairy branches are not rare, though we have seen no other form so conspicuously hairy. The characters of the cones are quite those of *C. distyla*, which vary from small and truncate in some New South Wales inland forms to large and pointed by the protruding rachis in the Hawkesbury Sandstone forms. Though Bentham describes the cones as "sessile or nearly so," strictly sessile cones are very rare in this species; in fact we have not a single specimen with strictly sessile cones in the large number of specimens from all States, except the specimens now described. The plant is so uniformly different in appearance from the form of *C. distyla*, which is very abundant in the localities named, that it seems desirable to name it.

CASUARINA SUBEROSA Otto & Dietr.

Newport to Barrenjoey (R. H. Cambage and J. H. Maiden; July, '05).

We also draw attention to a pigmy form of this species, 2 feet high, and with small cones. It is erect and yet bushy, reminding one of the habit of *C. nana*. *C. suberosa*, of normal size, is in the immediate neighbourhood, and while we note no characters, other than that of size, in regard to this form, we think that its dwarf habit should be pointed out.

CASUARINA INOPHLOIA F.v.M. & F. M. Bailey in 'Melbourne Chemist and Druggist,' April, '82.

Warialda (J. L. Boorman; July, '05).

Though this is a well-described plant, it is not well known in this State, where it is confined to the northern tableland, pro-

bably only west of the northern railway line, from about 30° S. lat. extending northward far into Queensland. It is perhaps the most interesting species of the interesting genus *Casuarina* on account of the thick medullary rays of the timber, quite unique in the vegetable kingdom.

Mr. Bailey writes of this species in his 'Catalogue of the Woods of Queensland' (Melb. Exhib. 1888)—“Wood very beautiful, of a reddish colour, but with numerous dark marks.” These dark marks are the medullary rays, which appear in the cross-section as thick dark lines from just above 1 to 1½ mm. in thickness, radiating from the centre to the bark and penetrating even half-way through the fibrous bark, where they form partition-walls between which the fibres are packed. In the tangential cut the medullary rays appear as interrupted perpendicular thick lines, and in the radial cut as large, irregular blotches. The fibrous bark is also quite unique in the genus, and is the most conspicuous character from which the specific name is derived. Mueller and Bailey point out in the original description of the species that the tree to which Leichhardt refers ('Overland Expedition from Moreton Bay to Port Essington,' p.49) in the following words—“I met (in the gullies on Robinson's Creek, Expedition Range) with a new species of Forest Oak, which deserves the name *villosa*, for its bark looks quite villous” is probably this species, because the bark of no other *Casuarina* known could possibly be called villous.

Mr. Boorman describes the habit of the tree at Warialda as—“A tree 8 to 16 feet high, with pendulous branches and ribbony bark not readily separable from the stem, as is the case in the stringy-barks of *Eucalyptus*. The general character of the plant is like *C. distyla*, stooling in habit in the early stage, eventually growing into a single stem generally much crooked and branched, with a wide spreading top. It grows on dry ironstone ridges, in the poorest land.” The piece of stem brought home by Mr. Boorman is 2½ feet long by 9 inches in diameter, but even such short straight pieces of stem are rare, so that it would be very difficult to procure a good supply of this remarkable wood for cabinet-making purposes.

CYPERACEÆ.

LEPIDOSPERMA LINEARE R.Br.

Warialda (J. L. Boorman; Aug. '05).

Most northern locality of a plant common in the southern parts of Australia, from Tasmania upwards.

RHIZOSPERMÆ.

MARSILEA ANGUSTIFOLIA R.Br.—New for New South Wales.

Gilgunnia (W. Bäuerlen; No. 3175; Jan. '04).

Small plants with a filiform rhizome. Barren fronds glabrous, on filiform stalks from 1 to rarely above 2 inches long, the leaflets narrow-cuneate, 2 to rarely 3 lines long and $\frac{3}{4}$ to 1 line broad at the top, entire or obscurely crenate. Sporocarp solitary, shortly stalked or almost sessile, covered with very short appressed hairs, nearly horizontal, about 1 line broad and $1\frac{1}{2}$ lines long, only the lower tooth developed, obtuse.

Previously recorded by R. Brown, Bentham, and A. Braun only from North Australia. Mueller unites all Australian species under one name, so that his 'Census' is no guide to the distribution of the various species.

It is not possible to identify *M. angustifolia* from R. Brown's original brief description of six words: "foliolis lanceolatis apice subdentatis; adultis glabris" without type-specimens, but from Bentham's description in the 'Flora Australiensis,' and Alexander Braun's description in his classical paper 'Neuere Untersuchungen über die Gattungen Marsilea und Pilularia' (1870), we have no doubt that Mr. Bäuerlen's Gilgunnia specimens are the dwarf narrow-leaved form mentioned in both papers. F. M. Bailey figures *M. angustifolia* with lanceolate acute leaves ('Queensland Flora,' Part vi. p.1929, t.87) but describes the leaflets in the same place as truncate, copying literally Bentham's description in the 'Flora Australiensis.'

The most striking feature in the Gilgunnia specimens is the distinctly pinnate arrangement of the leaflets, in contradiction to the erroneous but quite popular conception that Marsilea has

digitate leaflets, like a four-leaved clover or like *Oxalis*. The fact is, as clearly pointed out and proved in A. Braun's paper before mentioned, that the four apparently digitate leaflets are really two pairs of leaflets, one pair above the other, with a short rhachis between them, though the very short rhachis disappears sometimes entirely in the swollen top of the leafstalk of floating leaves, and is in air-leaves nearly always indistinct, twisted and often concealed by hairs. The pinnate arrangement of the leaflets can be distinctly seen in the æstivation, and in the position the leaflets of air-leaves take at night; at night the leaflets close like *Mimosa* leaves; the lower and upper pair fold up and show distinctly the short rhachis between them.